EXHIBIT 2

Exhibit K
U.S. Patent No. 7,295,518 ("the '518 Patent") Exemplary Infringement Chart

The Accused MoCA Instrumentalities are instrumentalities that Charter deploys to provide a whole-premises DVR network over an on-premises coaxial cable network, with devices operating with data connections compliant with MoCA 1.0, 1.1, and/or 2.0. The Accused MoCA Instrumentalities include the Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220, and substantially similar instrumentalities. Charter literally and/or under the doctrine of equivalents infringes the claims of the '518 Patent under 35 U.S.C. § 271(a) by making, using, selling, offering for sale, and/or importing the Accused MoCA Instrumentalities.

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1. A data communication network comprising:	The Accused Services are provided using at least the Accused MoCA Instrumentalities including gateway devices (including, but not limited to, the Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, and devices that operate in a similar manner), client devices (including, but not limited to, the Charter Arris DCX3200, Charter Arris DCX3220, and devices that operate in a similar manner), and substantially similar instrumentalities. The Accused MoCA Instrumentalities operate to form a data communication network over an on-premises coaxial cable network as described below. The Charter full-premises DVR network constitutes a data communication network as claimed. The Charter full-premises DVR network is a MoCA network created between gateway devices and client devices using the on-premises coaxial cable network. This MoCA network is compliant with MoCA 1.0, 1.1, and/or 2.0. "The MoCA system network model creates a coax network which supports communications between a convergence layer in one MoCA node to the corresponding convergence layer in another MoCA node."

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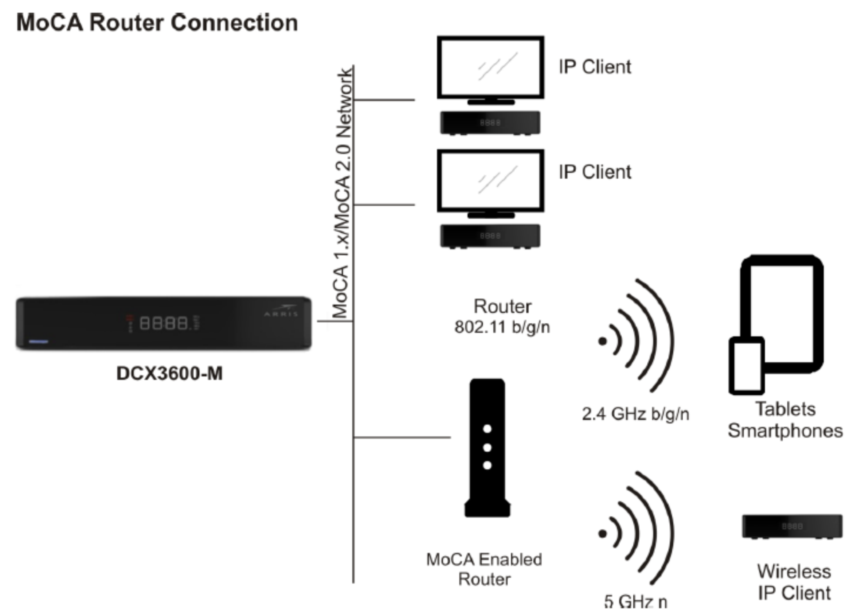
	(MoCA 1.0, Section 1. *See also* MoCA 1.1, Section 1.1; MoCA 2.0, Section 1.2.2) “The MoCA Network transmits high speed multimedia data over the in-home coaxial cable infrastructure.” (MoCA 1.0, Section 2. *See also* MoCA 1.1, Section 2; MoCA 2.0, Section 5) Charter utilizes the MoCA standard to provide an on-premises DVR network over an on-premises coaxial cable network as shown below:  Figure 5 - A Typical Mixed MoCA/WiFi Home Network
at least two network devices, each network	The Accused MoCA Instrumentalities operate to form a data communication

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device comprising a multi-carrier modulator for modulating data, an up converter for translating the modulated data to an RF carrier frequency, a down converter for translating an RF signal, and a multi-carrier demodulator for demodulating the translated RF signal to produce data; and	network with at least two network devices, each network device comprising a multi-carrier modulator for modulating data, an up converter for translating the modulated data to an RF carrier frequency, a down converter for translating an RF signal, and a multi-carrier demodulator for demodulating the translated RF signal to produce data as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting a multi-carrier modulator for modulating data, an up converter for translating the modulated data to an RF carrier frequency, a down converter for translating an RF signal, and a multi-carrier demodulator for demodulating the translated RF signal to produce data.

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	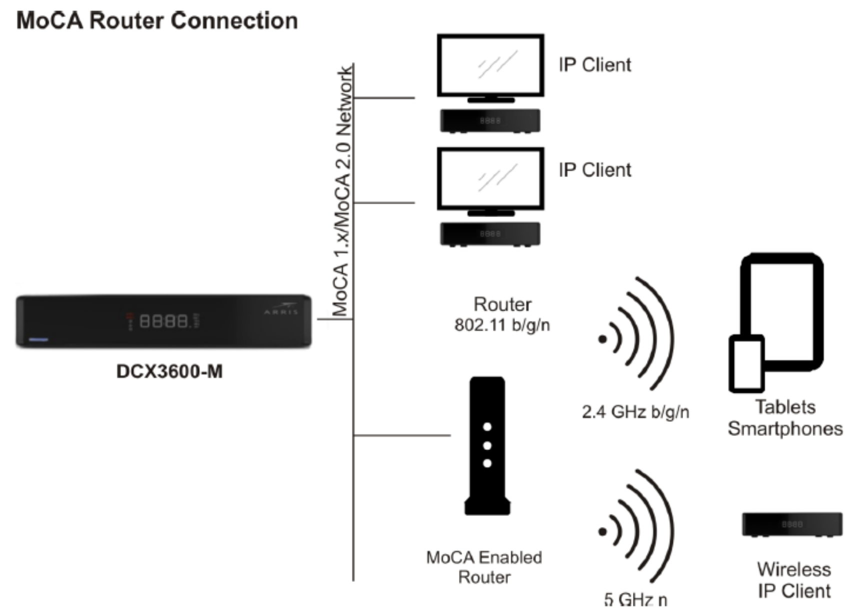 Figure 5 - A Typical Mixed MoCA/WiFi Home Network “The MoCA system network model creates a coax network which supports communications between a convergence layer in one MoCA node to the corresponding convergence layer in another MoCA node.” (MoCA 1.0, Section 1. *See also* MoCA 1.1, Section 1.1; MoCA 2.0, Section 1.2.2)

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	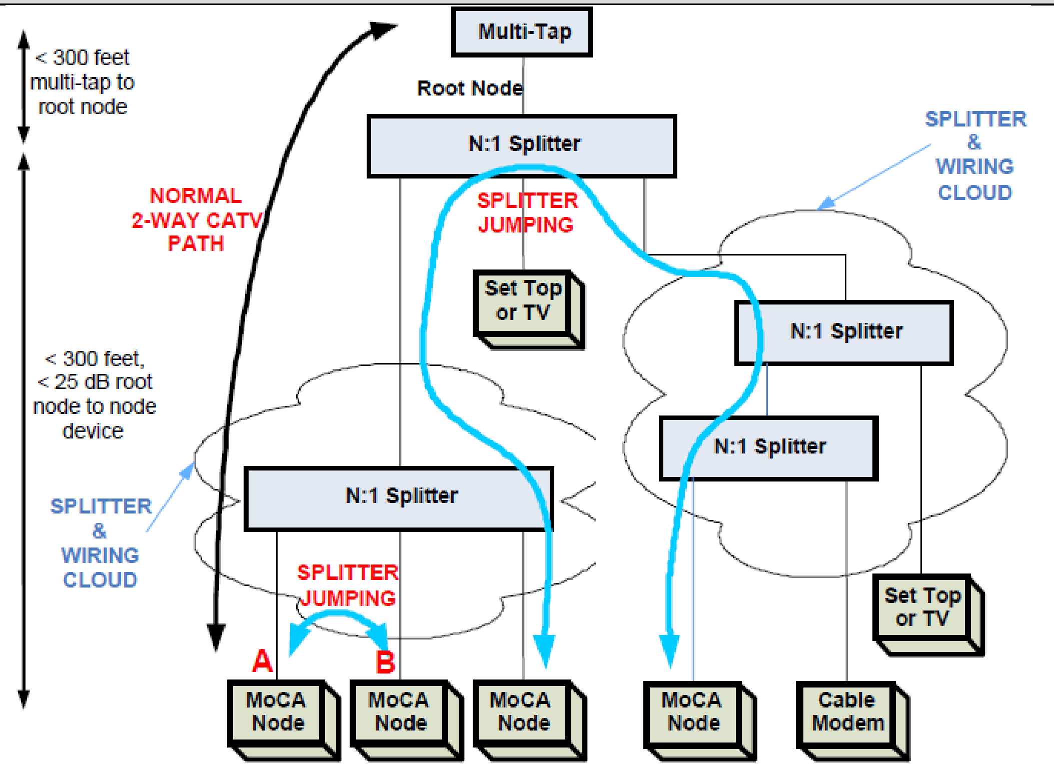 **Figure 2-1. A Typical In-home Cable Network** (MoCA 1.0, Figure 2-1. *See also* MoCA 1.1, Figure 2-1; MoCA 2.0, Figure 1-1) "For frequency-domain probes, the probe payload is inserted before the subcarrier mapper and undergoes ACMT modulation. For time-domain probes, the probe payload is inserted after the ACMT modulator. This is illustrated in the next figure. As in the case of PHY data packets, the time-domain and frequency-domain

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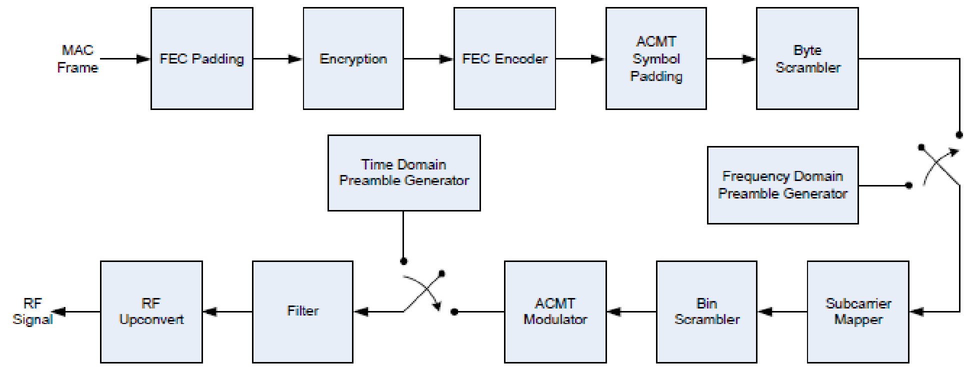
	portions of the PHY preamble enter the transmission processing chain at different points." (MoCA 1.0, Section 4.2.2.1. *See also* MoCA 1.1, Section 4.2.2.1; MoCA 2.0, Sections 14.3.8, 14.3.10)  **Figure 4-2. PHY Data Packet Transmission Processing** (MoCA 1.0, Figure 4-2. *See also* MoCA 1.1, Figure 4-2, MoCA 2.0, Figure 14-2)

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	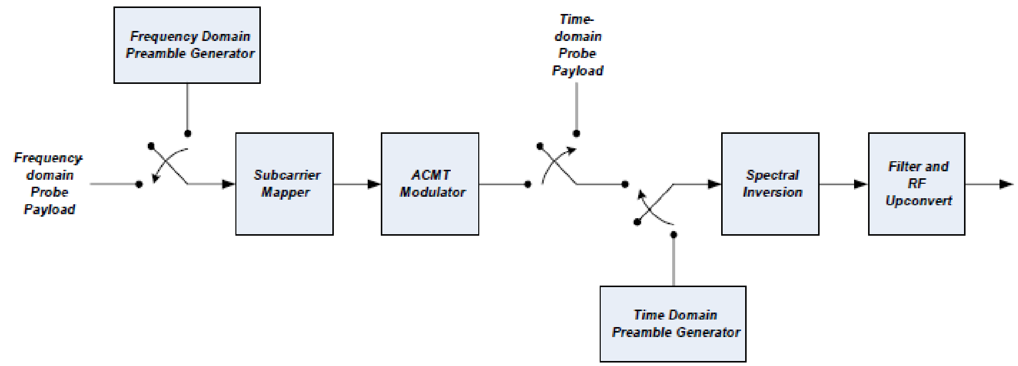 **Figure 4-4. PHY Probe Transmission Processing** (MoCA 1.0, Figure 4-4. *See also* MoCA 1.1, Figure 4-4, MoCA 2.0, Figure 14-4) “Adaptive Constellation Multi-tone (ACMT) – A multi-tone modulation scheme where constellation density is automatically adapted to the channel characteristic.” (MoCA 1.0, Section 1.2. *See also* MoCA 1.1, Section 1.2, MoCA 2.0, Section 3) “ACMT uses multicarrier transmission, much like OFDM.” (MoCA 1.0, Section 4.3.6. *See also* MoCA 1.1, Section 4.3.6; MoCA 2.0, Section 5.2) “The PHY packet consists of a PHY preamble immediately followed by a PHY payload field as shown in Figure 4-1. The PHY preamble provides the receiver a reference signal that the receiver may use to acquire the packet, calibrate its algorithms and eventually, to decode the PHY payload.” (MoCA 1.1, Section 4.2. *See also* MoCA 1.1, Section 4.2; MoCA 2.0, Section 14.1).

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	On informed belief, the receiver has a down converter for translating an RF signal and a multi-carrier demodulator for demodulating the translated RF signal to produce data.
cable wiring comprising a splitter with a common port and a plurality of tap ports, and a plurality of segments of coaxial cable connecting between the splitter tap ports and the network devices;	The Accused MoCA Instrumentalities form a data communication network using cable wiring comprising a splitter with a common port and a plurality of tap ports, and a plurality of segments of coaxial cable connecting between the splitter tap ports and the network devices as described below. For example, a Charter full-premises DVR network is shown in the image below. As shown in the example image and on informed belief, the Charter full-premises DVR network includes cable wiring comprising a splitter with a common port and a plurality of tap ports, and a plurality of segments of coaxial cable connecting between the splitter tap ports and the network devices.

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	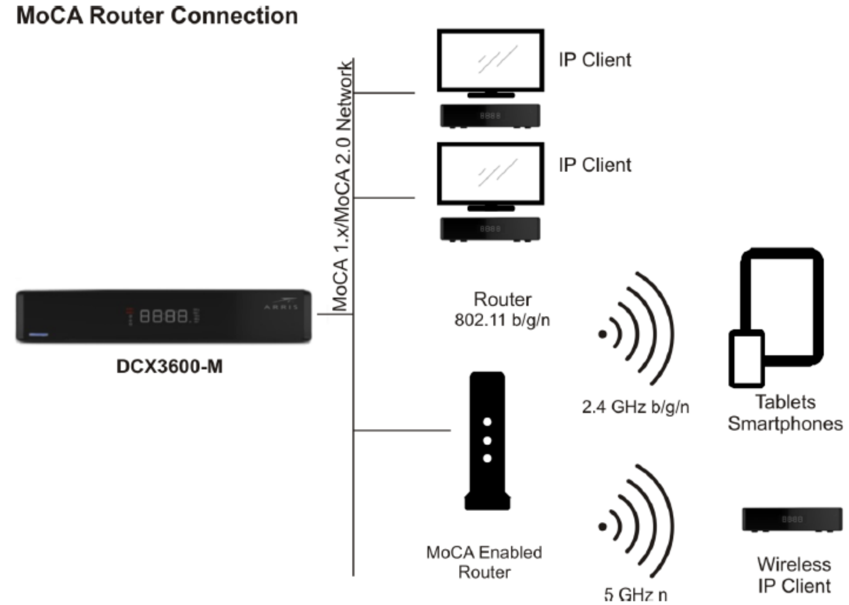 Figure 5 - A Typical Mixed MoCA/WiFi Home Network "Typical in-home coaxial networks are configured as a branching tree topology with the point of demarcation being at the point of entry, typically on the side of the house, and outlets distributed throughout the house. The point of entry is typically connected to the first splitter in the home through a coax cable. In order to get MSO services, the point of entry must be connected to a multi-tap in the MSO's coax distribution plant. In this document, the point of connection to the first splitter is called the root node. The MoCA devices inside the home communicate with each other by having their signals traverse across one or more splitters. When the signal traverses between two outputs of a single splitter, this is

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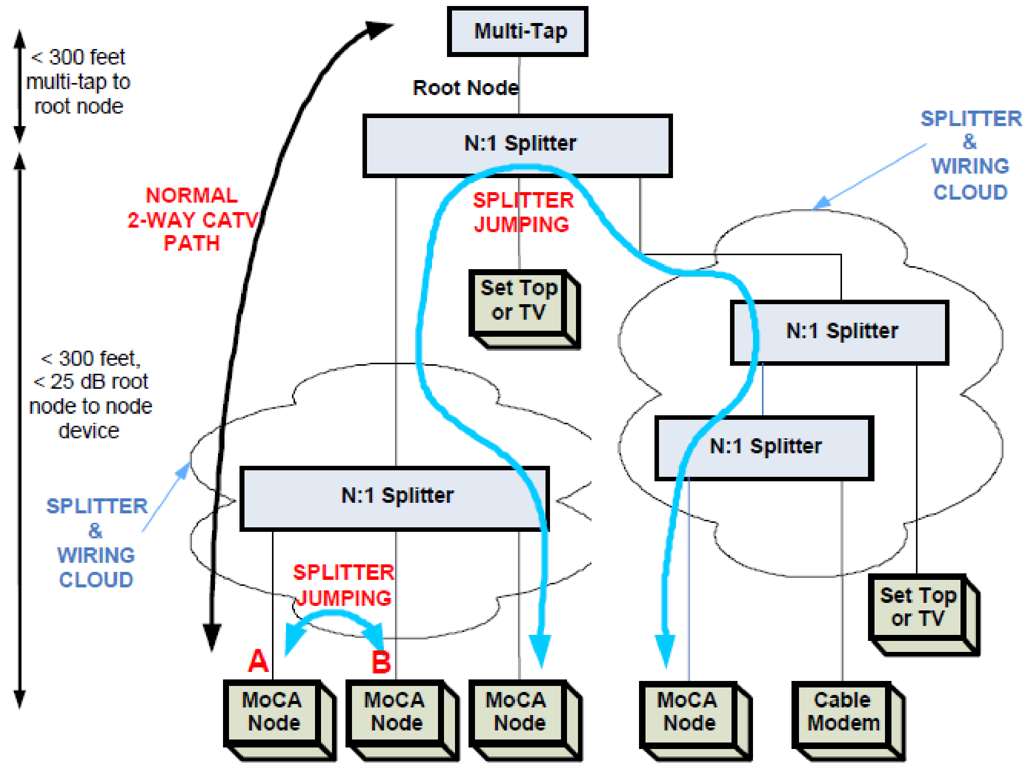
	referred to as 'splitter jumping'. Splitter jumping is always necessary when the signal must traverse between outlets in the home." (MoCA 1.0, Section 2.1.1. *See also* MoCA 1.1, Section 2.2.1; MoCA 2.0, Section 1.2.2)  **Figure 2-1. A Typical In-home Cable Network** (MoCA 1.0, Figure 2-1. *See also* MoCA 1.1, Figure 2-1; MoCA 2.0, Figure 1-1)
whereby network devices communicate with	The Accused MoCA Instrumentalities communicate with each other through the

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each other through the cable wiring using multi-carrier signaling;	cable wiring using multi-carrier signaling as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities communicate with each other through the cable wiring using multi-carrier signaling. “The MoCA physical layer (PHY) utilizes a modulation technique named Adaptive Constellation Multi-tone (ACMT). ACMT is a variation of orthogonal frequency division multiplexing (OFDM) where knowledge of the channel is used to pre-equalize all signals using variable bitloading on all subcarriers.” (MoCA 1.0, Section 2.2. *See also* MoCA 1.1, Section 2.2; MoCA 2.0, Section 5) “ACMT uses multicarrier transmission, much like OFDM.” (MoCA 1.0, Section 4.3.6. *See also* MoCA 1.1, Section 4.3.6; MoCA 2.0, Section 5.2) “All communication over the medium between two or more MoCA devices shall be performed via scheduled exchanges of Physical Layer (PHY) packets.” (MoCA 1.0, Section 4.2. *See also* MoCA 1.1, Section 4.2; MoCA 2.0, Section 14.1). “In order to achieve target packet error rates of less than 10^{-5} for large packets (>1500 bytes) with no retransmissions, the MoCA physical layer uses channel pre-equalization (using bit loading) and multi-tone modulation on all links.” (MoCA 1.0, Section 2.2. *See also* MoCA 1.1, Section 2.2; MoCA 2.0, Section 5) “PHY data packets carry MAC data and control frames as PHY payload. Figure 4-

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	3 shows an example of how a PHY data packet is constructed from a MAC frame. In this example, the FEC-padded MAC frame is encrypted and encoded into two Reed-Solomon code words, the last code word being shortened to minimize FEC padding. The encoded data is ACMT padded, scrambled and modulated onto the sub-carriers of three ACMT symbols. The ACMT symbols are bin-scrambled and then transformed to the time-domain where a cyclic prefix is added to each ACMT symbol to obtain the PHY data payload. Finally, a preamble is prepended to the PHY data payload and is filtered and upconverted to RF for transmission onto the media. In practice, the number of Reed-Solomon code words and number of ACMT symbols per PHY data packet will vary as a function of the MAC frame size and modulation profile. The processing steps referred to here are specified in Section 4.3.” (MoCA 1.0, Section 4.2.1.2. *See also* MoCA 1.1, Section 4.2.1.2, MoCA 2.0, Section 14.2) “The MoCA system network model creates a coax network which supports communications between a convergence layer in one MoCA node to the corresponding convergence layer in another MoCA node.” (MoCA 1.0, Section 1. *See also* MoCA 1.1, Section 1.1; MoCA 2.0, Section 1.2.2)
wherein network devices transmit probe messages through the cable wiring and analyze received probe message signals to determine channel characteristics and bit loading is selected based on the determined channel characteristics.	The network devices transmit probe messages through the cable wiring and analyze received probe message signals to determine channel characteristics and bit loading is selected based on the determined channel characteristics as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities transmit probe messages through the cable wiring and analyze received probe message signals to determine channel characteristics and bit loading is selected based on the determined channel characteristics.

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	“While it is physically a shared medium, the logical network model is a fully meshed collection of point-to-point links, each with its own unique channel characteristics and channel capacity. MoCA devices use optimized PHY parameters between every point to point link. Each set of optimized PHY parameters is called a PHY Profile. Because each link is unique, it is critical that all nodes know the source and the destination for every transmission.” (MoCA 1.0, Section 2.1.2. *See also* MoCA 1.1, Section 2.1.2; MoCA 2.0, Section 1.2.2) “The topology of the in-home coax typically results in a multi-path delay profile. Because the echoes can be stronger and/or weaker than the original signal, depending on the output port-to-output port isolation of the jumped splitter, the channel is said to have either pre- or post-echoes, respectively. A zero decibel echo, i.e., equal power to the main path, leads to deep nulls in the frequency domain spectrum. In order to achieve target packet error rates of less than 10-5 for large packets (>1500 bytes) with no retransmissions, the MoCA physical layer uses channel pre-equalization (using bit loading) and multi-tone modulation on all links.” (MoCA 1.0, Section 2.2. *See also* MoCA 1.1, Section 2.2; MoCA 2.0, Section 5.2) “Probe – A signal transmitted by a MoCA node and received by the same or another node for improving or maintaining PHY performance of inter-node links.” (MoCA 1.0, Section 1.2. *See also* MoCA 1.1, Section 1.2, MoCA 2.0, Section 3). “The MoCA system network model creates a coax network which supports communications between a convergence layer in one MoCA node to the

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	corresponding convergence layer in another MoCA node." (MoCA 1.0, Section 1. *See also* MoCA 1.1, Section 1.1; MoCA 2.0, Section 1.2.2) "ACMT is a variation of orthogonal frequency division multiplexing (OFDM) where knowledge of the channel is used to pre-equalize all signals using variable bitloading on all subcarriers. The term used to describe the bitloading of the ACMT subcarriers is "modulation profile" and the process of creating a modulation profile between a node pair is called "modulation profiling". During periodic modulation profiling, probes are sent between all nodes and analyzed. After probe analysis, modulation profiles are chosen to optimize individual link throughput while maintaining a low packet error rate." (MoCA 1.0, Section 2.2. *See also* MoCA 1.1, Section 2.2; MoCA 2.0, Section 5) "A variety of physical layer frequency-domain and time-domain probes are used to create modulation profiles, optimize performance, and allow for various calibration mechanisms. Type I Modulation Profile Probes are frequency domain probes used to determine modulation profiles of the channel between any two nodes. Type II Probes are frequency domain probes consisting of two tones that may be used to fine tune performance. A Type III Echo Profile Probe may be used to determine the impulse response of the channel. This information can be used to optimize various physical layer parameters. In addition to the above probes, this specification provides opportunities for various unique Loopback Transmissions which may be useful for RF calibration, among other things." (MoCA 1.0, Section 2.2. *See also* MoCA 1.1, Section 2.2; MoCA 2.0, Section 5.2)